

CLAIMS

What is claimed is:

1. An antibody that competitively inhibits binding of an AR polypeptide to an antibody wherein the antibody comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:2, 3, 4, 5, 12, and 14.
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2. The antibody of claim 1 wherein the antibody comprises a heavy chain variable region having an amino acid sequence selected from SEQ ID NOs: 2, 4 and 12 and a light chain variable region having an amino acid sequence of SEQ ID NO: 3, 5 and 14.
3. The antibody of claim 1, wherein the antibody is selected from the group consisting of:
10 PAR34, PAR80 and HuPAR34.
4. The antibody of claim 1, wherein the antibody is a chimeric or humanized antibody.
5. The antibody of claim 1, wherein the antibody is an antibody fragment.
6. The antibody of claim 5, wherein the antibody fragment is selected from the group consisting of Fab, Fab', F(ab')₂, Fv fragments, rIgG, diabodies, single chain antibodies,
15 and multispecific antibodies.
7. The antibody of claim 1, wherein the antibody is conjugated to an effector moiety.
8. The antibody of claim 1, wherein the AR polypeptide is on a cancer cell.
9. The antibody of claim 1, wherein the AR polypeptide is on a skin cell.
10. An antibody comprising a heavy chain variable region having amino acid sequence of at
20 least 60% identity to a sequence selected from SEQ ID NOs: 2, 4, and 12 and a light chain variable region having amino acid sequence of at least 60% identity to a sequence selected from SEQ ID NOs: 3,5 and 14.
11. The antibody of claim 10, wherein the antibody is chimeric.
12. The antibody of claim 10, wherein the antibody is humanized.

13. A pharmaceutical composition comprising a pharmaceutically acceptable excipient and the antibody of claim 1.
14. The pharmaceutical composition of claim 13, wherein the antibody is conjugated to an effector moiety.
- 5 15. The pharmaceutical composition of claim 13, wherein the antibody comprises SEQ ID NO:12 and SEQ ID NO:14.
16. The pharmaceutical composition of claim 13, wherein the antibody is HuPAR34.
17. The pharmaceutical composition of claim 13, wherein the antibody is conjugated to an effector moiety.
- 10 18. A monoclonal antibody that binds a polypeptide, wherein the polypeptide comprises a sequence that is at least 80% homologous to the amino acid sequence of SEQ ID NO:1.
19. The monoclonal antibody of claim 18, wherein the homology is at least 98%.
20. The monoclonal antibody of claim 18, wherein the antibody is an antibody fragment selected from the group consisting of Fab, Fab', F(ab')₂, Fv fragments, rIgG, diabodies, 15 single chain antibodies, and multispecific antibodies.
21. The monoclonal antibody of claim 18, wherein the antibody inhibits proliferation of tumor cells.
22. The monoclonal antibody of claim 18, wherein the antibody inhibits *in vivo* proliferation of tumor cells that express AR.
- 20 23. The monoclonal antibody of claim 18, wherein the antibody is a chimeric, humanized or human antibody.
24. The monoclonal antibody of claim 18, wherein the antibody is conjugated to an effector moiety.
25. The monoclonal antibody of claim 18, wherein the antibody competes for binding to the ligand binding site of a ligand of AR.

26. The monoclonal antibody of claim 18, wherein the antibody binds to the same AR epitope as that bound by an antibody selected from group consisting of PAR34, PAR80 and HuPAR34.
27. A host cell which produces the antibody of claim 18, wherein the host cell is selected from the group consisting of a Chinese Hamster Ovary (CHO) cell, E. coli, yeast cell, and insect cell.
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28. A hybridoma producing the monoclonal antibody of claim 18.
29. An isolated polynucleotide encoding an amino acid sequence selected from the group consisting of SEQ ID NOs:2-5,12 and 14.
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30. An isolated polynucleotide comprising a nucleic acid sequence selected from the group consisting of SEQ ID NOs:8,10,16 and 18.
31. A vector comprising a nucleic acid sequence selected from the group consisting of SEQ ID NOs:8,10,16 and 18.
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32. A polypeptide comprising a sequence selected from SEQ ID NOs: 2, 3, 4, 5, 12 and 14.
33. A method of inhibiting cancer cell growth in a subject comprising administering to said subject a therapeutically effective amount of an antagonist of AR.
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34. The method of claim 33 wherein said cancer cells are epidermal cancer or pancreatic cancer cells.
35. The method of claim 33 wherein said antagonist of AR is an anti-AR antibody.
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36. The method according to Claim 33, wherein said antibody is conjugated with an effector moiety.
37. A method of treating psoriasis in a subject comprising administering to said subject a therapeutically effective amount of an antagonist of AR.
38. The method of claim 7 wherein said antagonist of AR is an anti-AR antibody.
39. The method according to Claim 38, wherein said antibody is a humanized antibody, a fully human antibody, a chimeric antibody, or a Fab, (Fab')2, or Fv fragment.
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40. The method according to Claim 38, wherein said antibody binds to same epitope as that of an antibody comprising an amino acid sequence selected from SEQ ID NOs: 2, 3, 4, 5, 12 and 14.

41. The method according to Claim 19, wherein said antibody comprises an amino acid sequence having at least 60% identity to the sequence selected from SEQ ID NOs: 2, 3, 4, 5, 12 and 14.

42. The method according to Claim 38, wherein said antagonist is a nucleic acid complementary to a nucleic acid sequence encoding AR.

43. A method of diagnosing psoriasis or cancer in a mammal, comprising:

10 a. contacting an anti-AR antibody with a test sample obtained from the mammal; and
 b. detecting the formation of a complex between the antibody and a polypeptide of the test sample;

15 wherein the antibody binds the polypeptide comprising an amino acid sequence having at least 80% homology to the amino acid sequence of an AR protein.

44. A method of detecting psoriasis comprising:

20 a. isolating a skin sample from a patient;
 b. contacting cells of said skin sample with an anti-AR antibody;
 c. contacting normal skin cells with an anti-AR antibody;
 d. detecting and comparing difference of expression of AR in said skin sample cells with said normal skin cells.

45. The method according to Claim 44, wherein said anti-AR antibody is an antibody comprising an amino acid sequence selected from SEQ ID NOs: 2, 3, 4, 5, 12 and 14.